Crestron **V12 & V15**
V-Panel™
12” & 15” HD Touch Screen Displays
Operations Guide

CRESTRON®

This document was prepared and written by the Technical Documentation department at:

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Regulatory Compliance

As of the date of manufacture, the V12 and V15 have been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.

Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:
(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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V-Panel™ 12” and 15” HD Touch Screen Displays: V12 & V15

Introduction

Crestron® V-Panels™ deliver a whole new level of style and function in a fresh new design offering exceptional versatility and the latest Crestron high definition touchpanel technology. Sleek and beautiful, our V-Panel displays are perfectly at home sitting on a contemporary table or desktop but are equally suited for all kinds of custom installations, thanks to integral VESA mount compatibility. Complete connectivity is provided through a single cable connection that allows for long wire runs while affording an extremely clean appearance. V-Panel is also the world’s only touchpanel control solution to support HDCP for complete compatibility with today’s digital sources.

The V-Panels feature brilliant 12” SVGA (V12) or 15” WXGA (V15) displays capable of producing stunning 24-bit color graphics and video. Together with a DGE Digital Graphics Engine (sold separately), the V12 and V15 deliver elegant and powerful touchpanel control solutions featuring blazingly fast performance with dual window HD video*, streaming multimedia, embedded PC applications and Web browsing, IP intercom and annotation, all cohesively merged into one seamless user interface through Crestron Core 3.*

For simplicity within this guide, the term “V12/15” is used except where noted.

Features and Functions

- Sleek, beautiful, versatile
- 12” (V12) and 15” widescreen (V15) touch screen display
- 800 x 600 SVGA (V12) and 1280 x 768 WXGA (V15) resolution
- High performance graphics and video (V12)
- High definition graphics and video* (V15)

(Continued on following page)

* Support for multiple video windows, high definition video, RGB/VGA, HDMI, HDCP presentation output and DigitalMedia™ system integration requires a DGE-2 Digital Graphics Engine or DVPHD (both sold separately). Additional equipment may be required. The DGE-1 (sold separately) supports only standard definition analog video displayed in a single window and does not currently support Core 3 graphics or integration with a DigitalMedia system.

Features and Functions

(Continued)

- Industry’s only HDCP-ready touchpanel controller
- VESA compatible mounting affords endless install options
- Tabletop tilt model features clean, modern design
- Wall mount model installs flush in shallow spaces
- Contemporary appearance blends in anywhere
- Significantly reduced wiring via DigitalMedia™ technology
- Digital Graphics Engine (DGE) (sold separately) installs up to 450 feet (137 meters) away*
- Also works with the DVPHD Digital Video Processor (sold separately)
- Built-in microphone and speakers
- USB keyboard/mouse port
- Cool, quiet fanless design
- Available in white or black

Sleek, Versatile Design

Our V-Panels have been designed with appearance and versatility in mind. By separating the graphics engine hardware from the display, V-Panel allows the visible touch screen element to be built smaller, lighter, cooler and quieter. In fact, the V12/15 display is less than 2 inches (51 millimeters) deep and contains no cooling fans, so it is compact and silent. It can be mounted virtually anywhere using a third-party VESA 75 compliant mounting bracket or stand. Pre-configured tabletop tilt models (V12-TILT and V15-TILT) are offered, each supplied with its own ultra stylish, smooth tilt base to deliver a sleek looking, low profile control solution for desktops, counters and other level surfaces. Wall mount models (V12-WALL and V15-WALL) are also offered, affording the same V-Panel style and function in a thoroughly modern, yet unimposing, flush mount design.

Digital Graphics Engine

For every V-Panel application, a DGE Digital Graphics Engine (sold separately) is required. The DGE gets installed away from the touch screen, typically at the central equipment location, dramatically simplifying its connection to the head end AV sources, switchers and control network. A choice of DGEs is offered, allowing V-Panel to fit a range of applications and budgets. A single DigitalMedia™ cable connects the V12/15 to the DGE over a wiring distance of up to 450 feet (137 meters), affording great installation flexibility while minimizing cost and complexity.*

* The V12/15 features a DM CAT input. For direct connection to a DGE-1, use DM-CBL DigitalMedia cable up to 200 feet (61 meters) in length. For connection to a DGE-2, direct or via a DigitalMedia switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. For connection to a DVPHD, via a DigitalMedia transmitter or switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. Up to two DM Repeaters (model DM-DR, sold separately) are required for cable lengths beyond 200 feet (61 meters). Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines. It is available from the Crestron Web site (www.crestron.com/dmresources). The V12 and V15 include (1) V-CBL-T3 three foot (~0.9 meter) V-Cable and V-IMCW wall mount interface module and the V12-TILT and V15-TILT models include (1) V-CBL-T6 6 foot (~1.8 meter) V-Cable and V-IMCW wall mount interface module. The V12-WALL and V15-WALL models include no cable or interface module.

Advanced Touchpanel Control

Crestron touchpanels like the V12/15 offer an ideal user interface for multimedia presentation, home automation, command centers and much more, providing a wide open canvas for the creation of custom control screens tailored to the needs of the end user. Touchpanels do away with piles of remote controls, cryptic control panels and cluttered wall switches, simultaneously expanding and simplifying control over a broad range of complex devices and systems.

Powered by Core 3

The Crestron Core 3 UI framework enables the generation of dynamically rich user interfaces with greater power and ease than ever. Core 3 lets touchpanel designers merge multiple objects and apps on screen, leveraging the power of Adobe® Flash®, multi-format video, Web browsing, IP intercom and other technologies to deliver an engaging and ultra-intuitive touchpanel experience. Use gestures navigation to effortlessly browse through music and movie libraries, scroll through TV channels and radio stations and select any desired control app from an intuitive menu of colorful 3D icons. Personalize the touchpanel desktop with animated clocks, calendars, weather widgets, news feeds and other informative objects. Even apply themes and backgrounds that change on the fly with each user, event or season.

The power of Core 3 extends beyond impressive graphics and animated objects, unleashing tremendous new capabilities for controlling devices and managing a complete integrated system. Using the Core 3 SDK, programmers can develop fully functioning “device apps” that can be dropped into each touchpanel project without additional programming or resizing. Choose from an expanding library of fully developed device apps to instantly add controls for security systems and HVAC, provide sophisticated navigation for media servers and tuners and enable user-friendly editing of lighting scenes and channel presets. With Core 3, the possibilities are virtually limitless.

Embedded PC

In combination with a DGE graphics engine, the V12/15 delivers embedded PC functionality with built-in Windows Media® Player, Internet Explorer, Adobe® Acrobat® Reader and Microsoft® Word, Excel® and PowerPoint® document viewers. While simultaneously controlling the home, boardroom or lecture hall, the V12/15 and DGE provide everything needed for enjoying online music and movies, viewing Web pages and accessing most types of digital media without necessitating a separate computer. In addition, VNC Viewer support delivers enhanced cross platform interaction with computers over the network or Internet, allowing remote access and control of desktop applications to unleash all kinds of new presentation and system integration possibilities.

HD Video and RGB Display

The V12/15 can simultaneously display up to two fully scalable, full motion video windows, each supporting standard video, HDTV, and high resolution RGB signals from external AV and computer sources. All connections are made at the DGE (sold separately) using conventional BNC, HDMI® and VGA type cables*.

* Support for multiple video windows, high definition video, RGB/VGA, HDMI, HDCP presentation output and DigitalMedia system integration requires a DGE-2 Digital Graphics Engine or DVPHD (both sold separately). Additional equipment may be required. The DGE-1 (sold separately) supports only standard definition analog video displayed in a single window and does not currently support Core 3 graphics or integration with a DigitalMedia system.

HDCP Support

Industry leading support for HDCP (High-bandwidth Digital Content Protection) ensures seamless compatibility with content protected DVD, Blu-ray Disc™, digital HDTV and multimedia computer sources.*

Streaming Video

Through the DGE’s embedded Web browser and media player, the V12/15 supports streaming and downloadable video in a variety of formats, enabling access to all kinds of media from online sources and network servers. Additional support for the motion JPEG streaming format allows the display of live video from a Web camera or network video streamer (Crestron CEN-NVS100, CEN-NVS200, both sold separately, or equivalent).

Speakers and Microphone

Built-in front firing speakers provide clear audio for external AV sources, streaming media and internal PC applications and enable 2-way intercom and VoIP communications in combination with the integrated microphone. Customized WAV files can be used to add dimension to the touchscreen graphics with personalized sounds, button feedback and voice prompts.

IP Intercom

V-Panels support 2-way voice communication via a choice of IP or Crestron Home® CAT5 wired intercom. Crestron IP intercom eliminates the need for dedicated audio wiring, enabling 2-way speech and room monitoring over Ethernet with other compatible Crestron touchpanels. Wired intercom is also supported through a dedicated CAT5 audio connection between the DGE and a C2N-IADS30X24 (sold separately) or other Crestron Home CAT5 switcher or processor.

Keyboard/Mouse Options

On-screen keyboard and mouse capabilities enable complete control of the embedded Web browser and other applications and can also be used to control external network devices like the Crestron ADMS Intermedia Delivery System™ (sold separately) as well as computers running Touchpoint™ Virtual Mouse & Keyboard Software (VMK-WIN). A USB port is also provided on the V12/15, allowing for the connection of a physical keyboard and mouse.

Real Time Annotation

Whether conducting a high level boardroom meeting, training seminar or watching sports in your home theater, annotation helps put the fine point on any presentation. Built-in annotation provides the ability to illustrate your thoughts on the fly, letting you draw and write over high definition video and computer images and sketch out ideas on a whiteboard screen, without leaving the podium or your favorite chair while other viewers watch on the big screen.

* Support for multiple video windows, high definition video, RGB/VGA, HDMI, HDCP presentation output and DigitalMedia system integration requires a DGE-2 Digital Graphics Engine or DVPHD (both sold separately). Additional equipment may be required. The DGE-1 (sold separately) supports only standard definition analog video displayed in a single window and does not currently support Core 3 graphics or integration with a DigitalMedia system.

Remote Annotation

Remote annotation capability allows multiple touchpanel users to draw with their fingertips over the same video image or whiteboard screen, enabling enhanced interaction between several participants in a courtroom, classroom or council chamber.

Presentation Output

Through an HDMI or DM CAT connection at the DGE, the V12/15 screen image can be sent to additional displays, allowing videos, PowerPoint presentations, annotation and other on-screen media to be shared with a live audience.[1]

DVPHD Integration

In addition to the DGE-1 and DGE-2, V-Panel is also compatible with the award winning DVPHD High Definition Digital Video Processor (sold separately), enabling the display of up to eight simultaneous video windows along with HD touchpanel graphics and annotation. The DVPHD supports high definition video and computer signals from a wide variety of digital and analog sources. Its DVI output connects to the V12/V15 via a DM CAT transmitter or DM® switcher.[2, 3]

DigitalMedia

DigitalMedia connectivity opens up new ways to configure a touchpanel control system. For instance, using a DM switcher such as the DM-MD8X8 (sold separately), multiple V12/15 touch screens can be connected to a single DGE-2 or DVPHD, providing a simple, cost effective way for multiple participants to view and control the same graphical interface. DigitalMedia also provides a versatile means for distributing touch screen content to additional display devices and sound systems to serve a larger audience.[1]

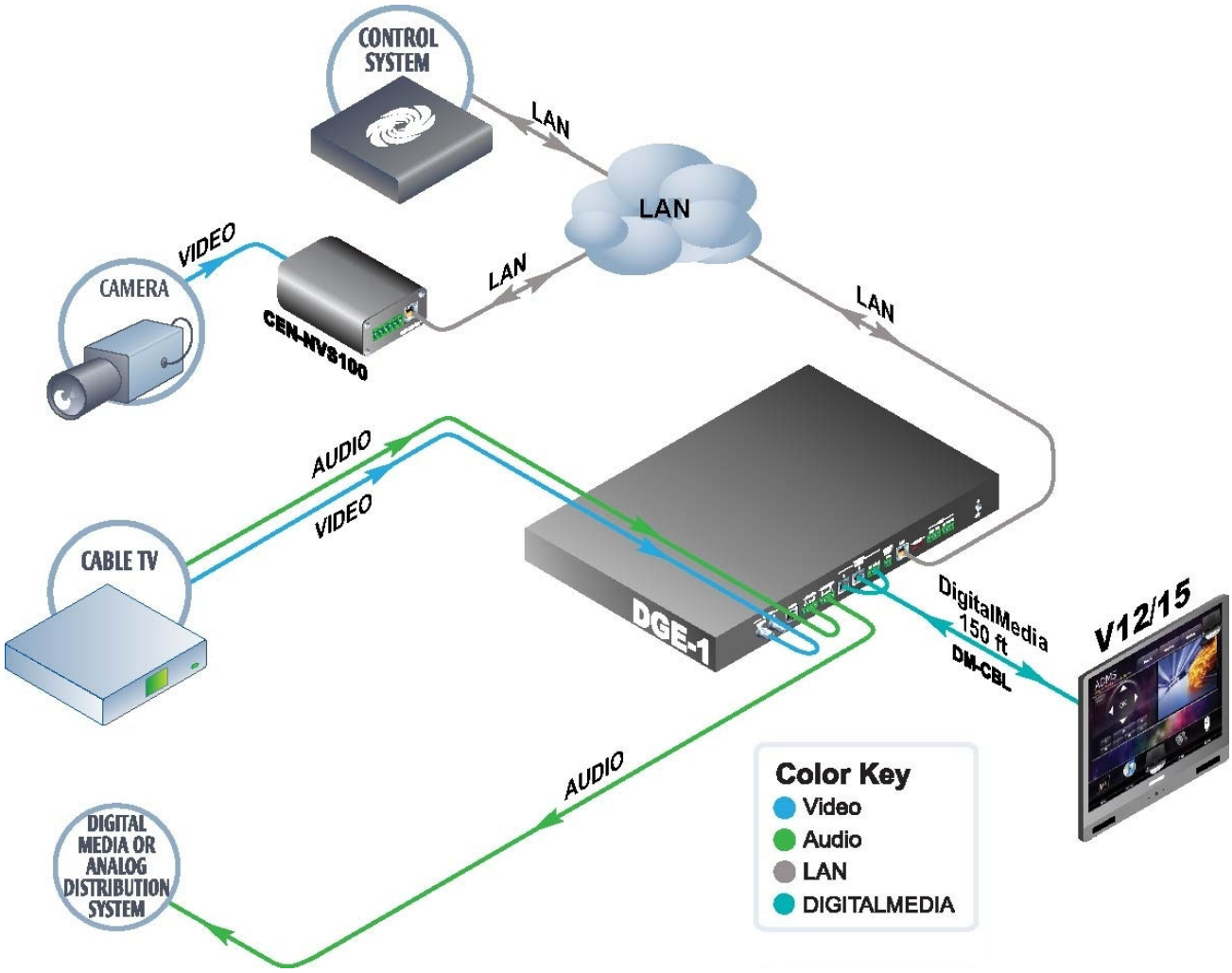
The V12/15 features a DM CAT type input, supporting the direct connection to Digtal Graphics Engine models DGE-1 and DGE-2, as well as to DM switchers and transmitters equipped with a DM CAT output.[2]

1. Support for multiple video windows, high definition video, RGB/VGA, HDMI, HDCP presentation output and DigitalMedia system integration requires a DGE-2 Digital Graphics Engine or DVPHD (both sold separately). Additional equipment may be required. The DGE-1 (sold separately) supports only standard definition analog video displayed in a single window and does not currently support Core 3 graphics or integration with a DigitalMedia system.
2. The V12/15 features a DM CAT input. For direct connection to a DGE-1, use DM-CBL DigitalMedia cable up to 200 feet (61 meters) in length. For connection to a DGE-2, direct or via a DigitalMedia switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. For connection to a DVPHD, via a DigitalMedia transmitter or switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. Up to two DM Repeaters (model DM-DR, sold separately) are required for cable lengths beyond 200 feet (61 meters). Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines. The V12 and V15 include (1) V-CBL-T3 three foot (~0.9 meter) V-Cable and V-IMCW wall mount interface module and the V12-TILT and V15-TILT models include (1) V-CBL-T6 6 foot (~1.8 meter) V-Cable and V-IMCW wall mount interface module. The V12-WALL and V15-WALL models include no cable or interface module.
3. An Ethernet enabled control system is required for use with a DVPHD. Be advised, the DVPHD does not support audio, intercom, streaming media, Web browsing or other embedded PC functionality.

Applications

The following diagram shows a V12/15 in a typical application.

V12/15 in a Typical Application



Specifications

Specifications for the V12/15 are listed in the following table.

V12/15 Specifications

SPECIFICATION	DETAILS
Touchscreen Display	
Display Type	TFT Active Matrix Color Display
Size	
V12	12 inch (305 mm) diagonal
V15	15 inch (381 mm) diagonal
Aspect Ratio	
V12	4:3 SVGA
V15	15:9 WXGA
Resolution	
V12	800 x 600 pixels
V15	1280 x 768 pixels
Brightness	
V12	450 nits
V15	470 nits
Contrast	
V12	1000:1
V15	700:1
Color Depth	24-bit, 16.7 million colors
Illumination	Backlit fluorescent
Viewing Angle	
V12	±89º horizontal, ±89º vertical
V15	±85º horizontal, ±85º vertical
Touchscreen	Resistive membrane
Video	Refer to DGE-1, DGE-2 or DVPHD specifications for additional information
Input Signal Type	DM CAT (DigitalMedia over dual shielded twisted pair copper wire)
Input Resolution	
V12	800 x 600 @ 60 Hz
V15	1280 x 768 @ 60 Hz
Audio	Refer to DGE-1 or DGE-2 specifications for additional information
Input Signal Type	DM CAT
Hardware Features	Built-in microphone and amplified speakers
Amplification	3 Watts x two channels
USB	
Protocols	Supports USB HID (Human Interface Device) class devices

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V12/15 Specifications (Continued)

SPECIFICATION	DETAILS
Power Requirements	
DMNet® Power Usage	
V12	30 Watts (1.25 Amps @ 24 Volts DC), normally powered from DGE (sold separately) via DMNet connection
V15	42 Watts (1.75 Amps @ 24 Volts DC), normally powered from DGE (sold separately) via DMNet connection
Environmental	
Temperature	41º to 113º F (5º to 45º C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	
V12	103 BTU/Hr
V15	144 BTU/Hr
Enclosure	
V12	Plastic case, VESA 75 x 75 mm mountable; V12-TILT model includes tabletop tilt stand with 0º to 35º adjustable screen tilt, optional swivel mount sold separately; V12-WALL model includes WMKC-V12 wall mount conversion kit with plastic front bezel, additional mounting accessories sold separately
V15	Plastic case, VESA 75 x 75 mm mountable; V15-TILT model includes tabletop tilt stand with 0º to 35º adjustable screen tilt, optional swivel mount sold separately; V15-WALL model includes WMKC-V15 wall mount conversion kit with plastic front bezel, additional mounting accessories sold separately
Dimensions	
V12	
Height	10.22 in (260 mm)
Width	11.72 in (298 mm)
Depth	1.66 in (42 mm)
V12-TILT	
Height	10.81 in (275 mm) max at 0º tilt
Width	11.72 in (298 mm)
Depth	8.11 in (206 mm) max at 35º tilt
V12-WALL	
Height	11.54 in (293 mm)
Width	13.04 in (332 mm)
Depth	2.01 in (52 mm)

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V12/15 Specifications (Continued)

SPECIFICATION	DETAILS
Dimensions (Continued)	
V15	
Height	11.10 in (282 mm)
Width	15.33 in (390 mm)
Depth	1.85 in (47 mm)
V15-TILT	
Height	11.69 in (297 mm) max at 0º tilt
Width	15.33 in (390 mm)
Depth	8.35 in (212 mm) max at 35º tilt
V15-WALL	
Height	12.44 in (316 mm)
Width	16.67 in (424 mm)
Depth	2.20 in (56 mm)
Weight	
V12	5.0 lbs (2.3 kg)
V12-TILT	9.0 lbs (4.1 kg)
V12-WALL	8.3 lbs (3.8 kg)
V15	7.5 lbs (3.4 kg)
V15-TILT	11.5 lbs (5.2 kg)
V15-WALL	11.8 lbs (5.4 kg)
Available Models	
V12-B	V-Panel 12” VESA Mount HD Touch Screen Display, Black
V12-W	V-Panel 12” VESA Mount HD Touch Screen Display, White
V12-TILT-B	V-Panel 12” Tilt HD Touch Screen Display, Black
V12-TILT-W	V-Panel 12” Tilt HD Touch Screen Display, White
V12-WALL-B	V-Panel 12” Wall Mount HD Touch Screen Display, Black
V12-WALL-W	V-Panel 12” Wall Mount HD Touch Screen Display, White
V15-B	V-Panel 15” VESA Mount HD Touch Screen Display, Black
V15-W	V-Panel 15” VESA Mount HD Touch Screen Display, White
V15-TILT-B	V-Panel 15” Tilt HD Touch Screen Display, Black
V15-TILT-W	V-Panel 15” Tilt HD Touch Screen Display, White
V15-WALL-B	V-Panel 15” Wall Mount HD Touch Screen Display, Black
V15-WALL-W	V-Panel 15” Wall Mount HD Touch Screen Display, White

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V12/15 Specifications (Continued)

SPECIFICATION	DETAILS
Included Accessories	
V12	
V-CBL-T-3	V-Cable Triamese Cable, 3 feet (~0.9 meters) (Included with V12 models only)
V-CBL-T-6	V-Cable Triamese Cable, 6 feet (~1.8 meters) (Included with V12-TILT models only)
V-IMCW	V-Panel Interface Module (Included with V12 and V12-TILT models only)
WMKC-V12	Wall Mount Conversion Kit for V12 (Included with V12-WALL models only)
V15	
V-CBL-T-3	V-Cable Triamese Cable, 3 feet (~0.9 meters) (Included with V15 models only)
V-CBL-T-6	V-Cable Triamese Cable, 6 feet (~1.8 meters) (Included with V15-TILT models only)
V-IMCW	V-Panel Interface Module (Included with V15 and V15-TILT models only)
WMKC-V15	Wall Mount Conversion Kit for V12 (Included with V15-WALL models only)
Available Accessories	
BB-V12	Pre-Construction Wall Mount Back Box for V12-WALL
BB-V15	Pre-Construction Wall Mount Back Box for V15-WALL
DGE-1	Digital Graphics Engine
DGE-2	Digital Graphics Engine
DM-CBL	DigitalMedia Cable
DM-CONN	DigitalMedia Cable Connector
DM-DR	DigitalMedia Repeater
MMK-V12	Mud Ring for BB-V12 or PMK-V12
MMK-V15	Mud Ring for BB-V15 or PMK-V15
PMK-V12	Pre-Construction Wall Mounting Kit for V12-WALL
PMK-V15	Pre-Construction Wall Mounting Kit for V15-WALL
SMK-V15	Swivel Mount Kit for V12-TILT and V15-TILT
V-CBL-T	V-Cable Triamese Cables
V-IMCW	V-Panel Interface Module
WMKC-V12	Wall Mount Conversion Kit for V12
WMKC-V15	Wall Mount Conversion Kit for V15

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V12/15 Specifications (Continued)

SPECIFICATION	DETAILS
Available Accessories (Continued)	
WMKM-V12	Post-Construction Wall Mounting Kit with Mud Ring for V12-WALL
WMKM-V15	Post-Construction Wall Mounting Kit with Mud Ring for V15-WALL
WMKT-V12	Post-Construction Wall Mounting Kit with Trim Ring for V12-WALL
WMKT-V15	Post-Construction Wall Mounting Kit with Trim Ring for V15-WALL

Physical Description

This section provides information on the connections, controls and indicators available on your V12/15.

V12-TILT Physical View (Shown in Black)

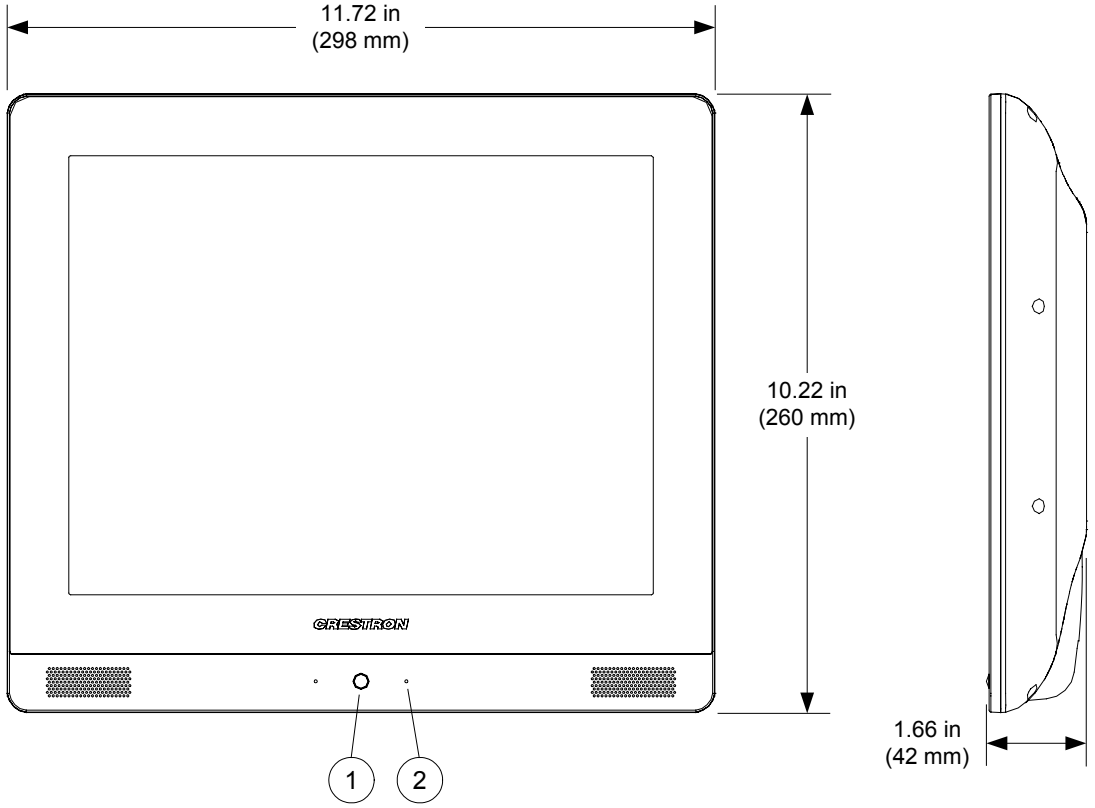
V12-WALL Physical View (Shown in White)

V15-TILT Physical View (Shown in Black)

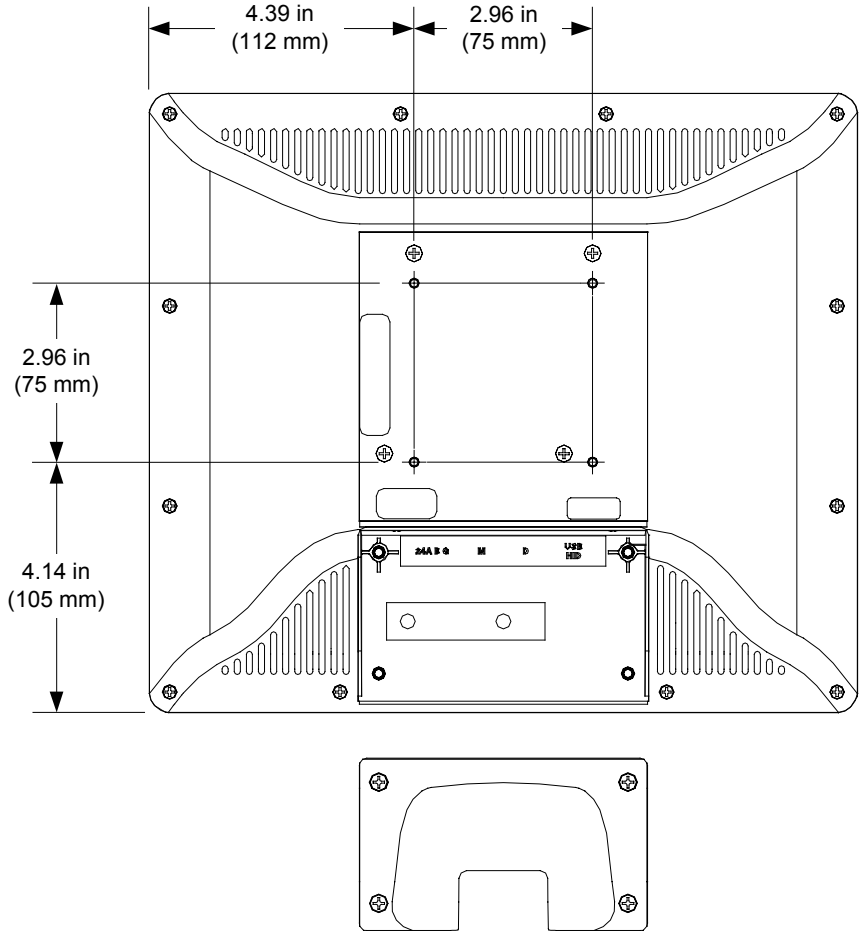
V15-WALL Physical View (Shown in White)

V-Panel Physical View (Rear Showing Connector Ports)

V12 Overall Dimensions (Front and Side Views)

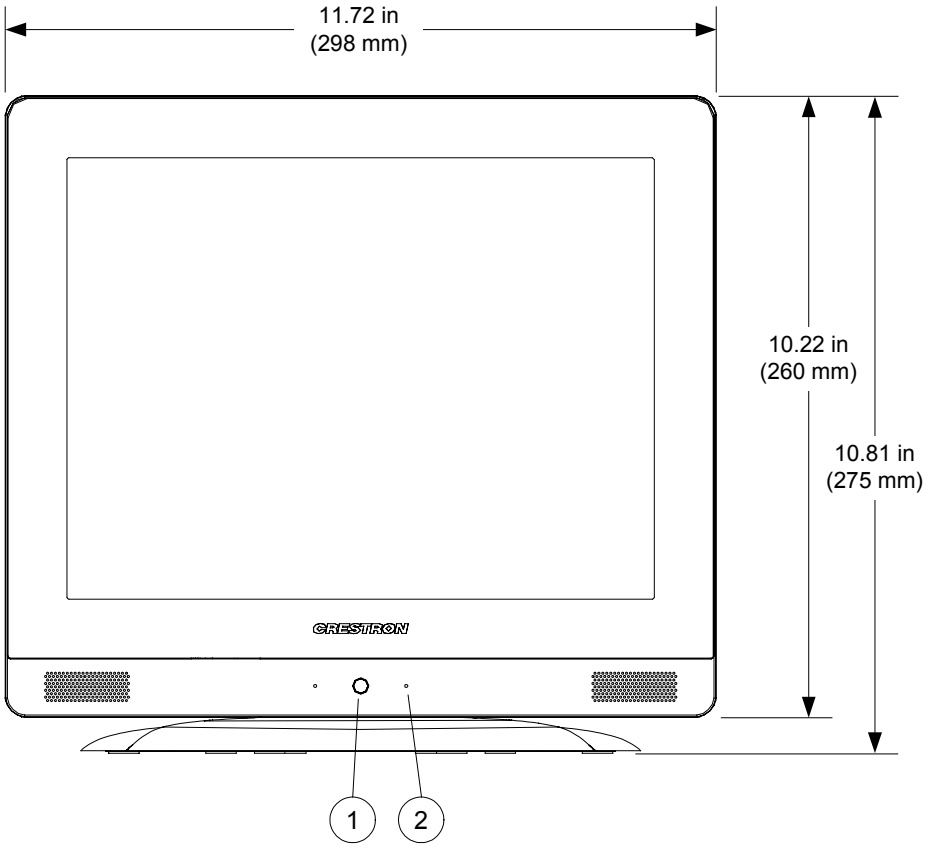


V12 Overall Dimensions (Rear View)

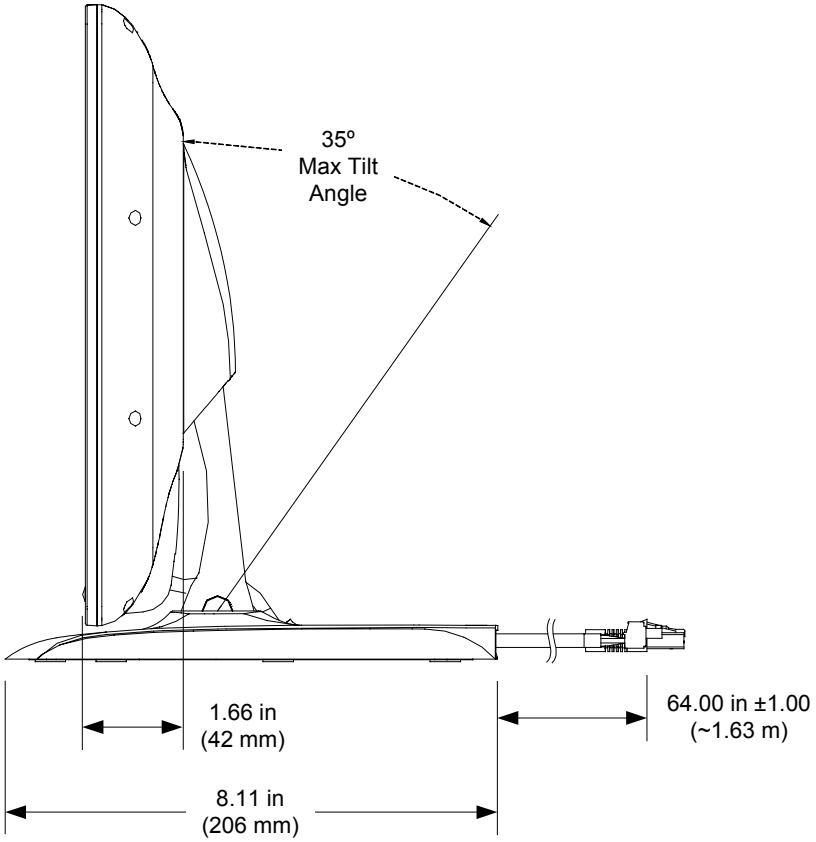


NOTE: In the illustration above, the V12 is shown with the rear cover removed. When making cable connections to the V12, it will be necessary to remove the cover by first removing the four screws holding it in place. Replace the cover when connections have been made.

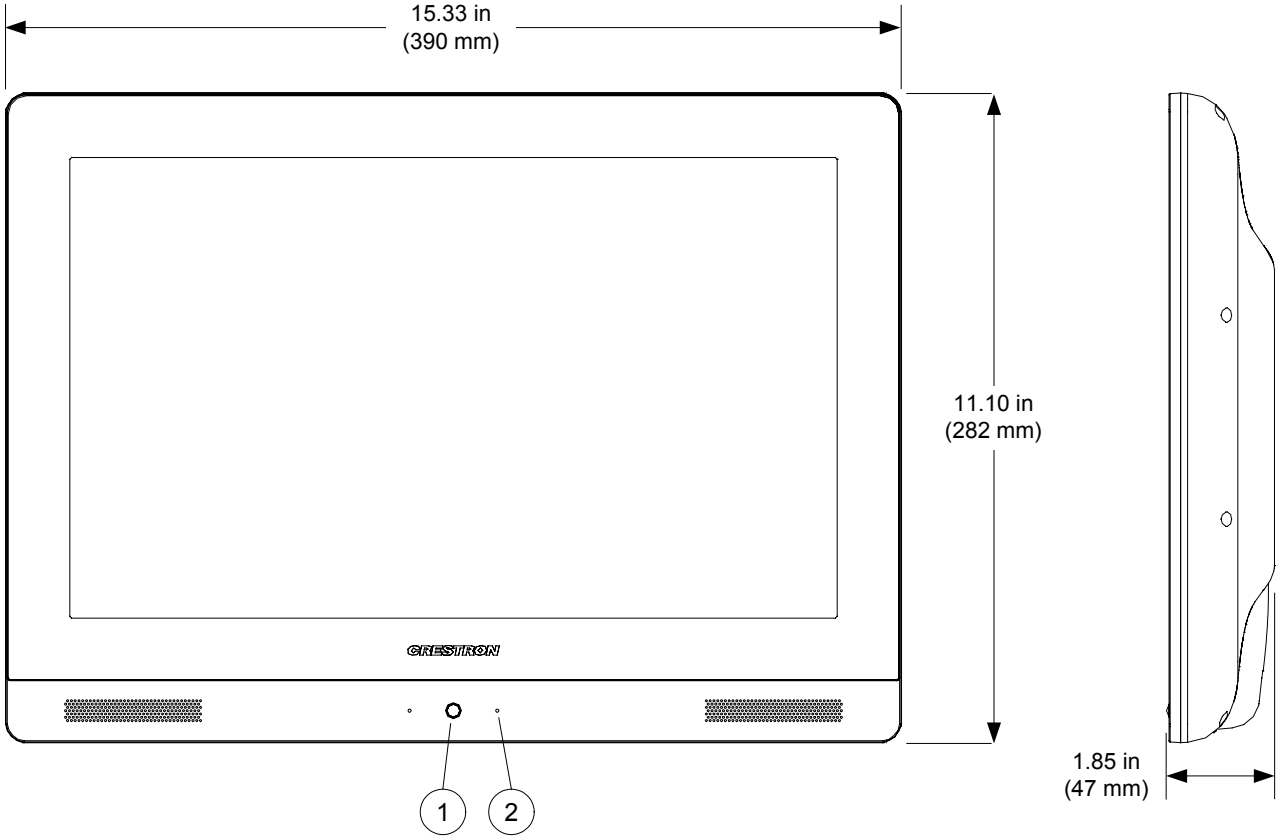
V12-TILT Overall Dimensions (Front View)



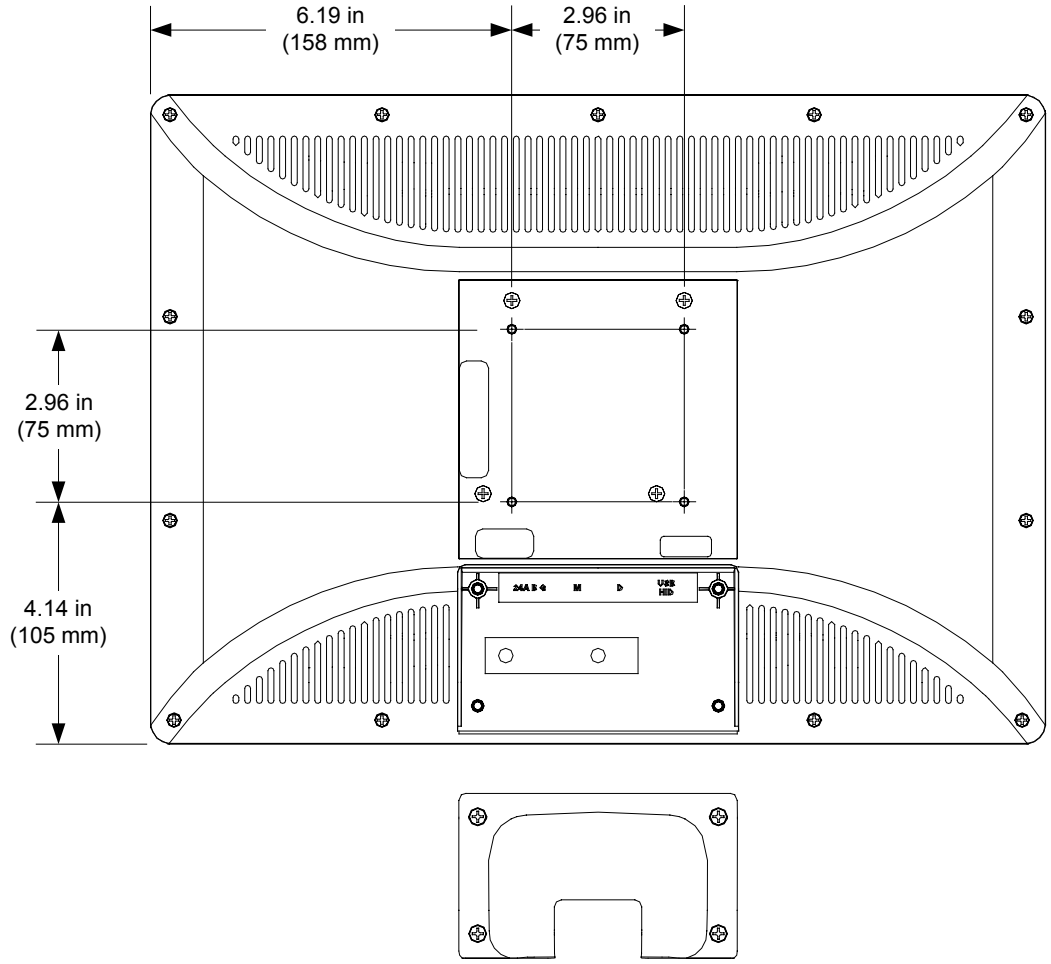
V12-TILT Overall Dimensions (Side View)



V15 Overall Dimensions (Front and Side Views)

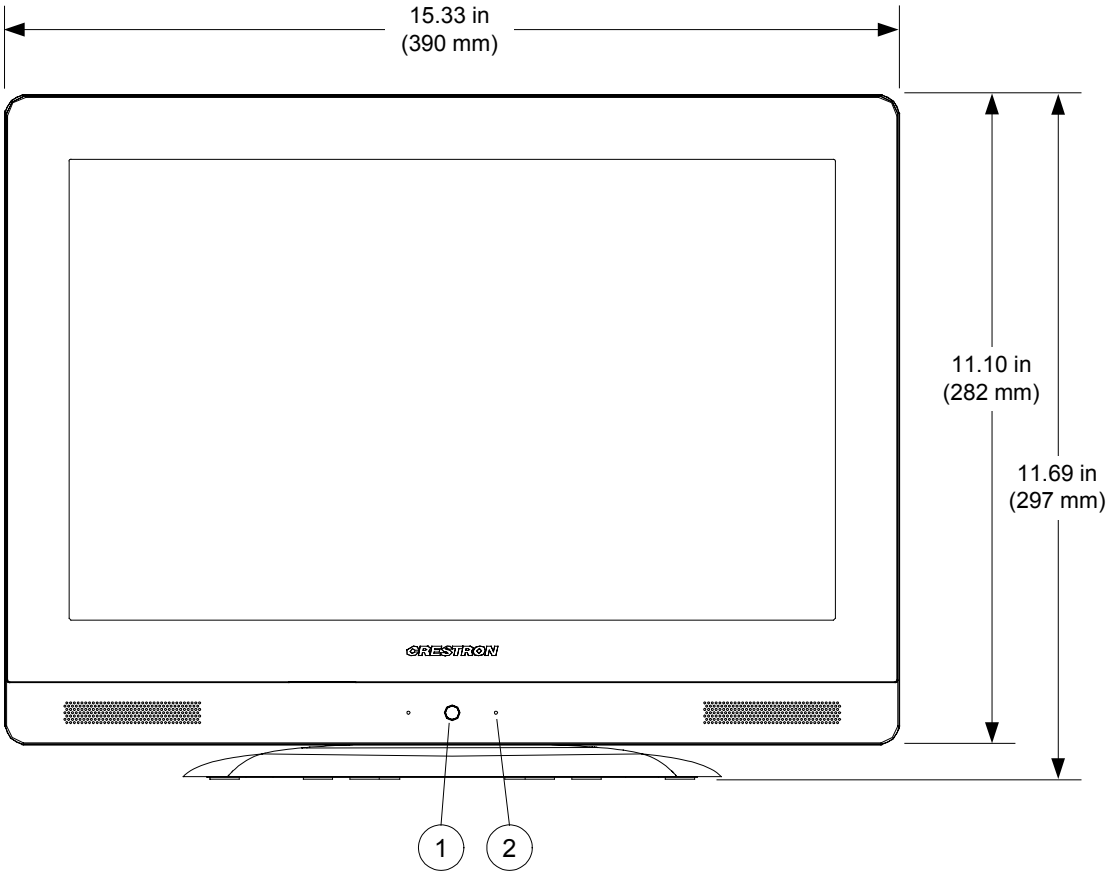


V15 Overall Dimensions (Rear View)

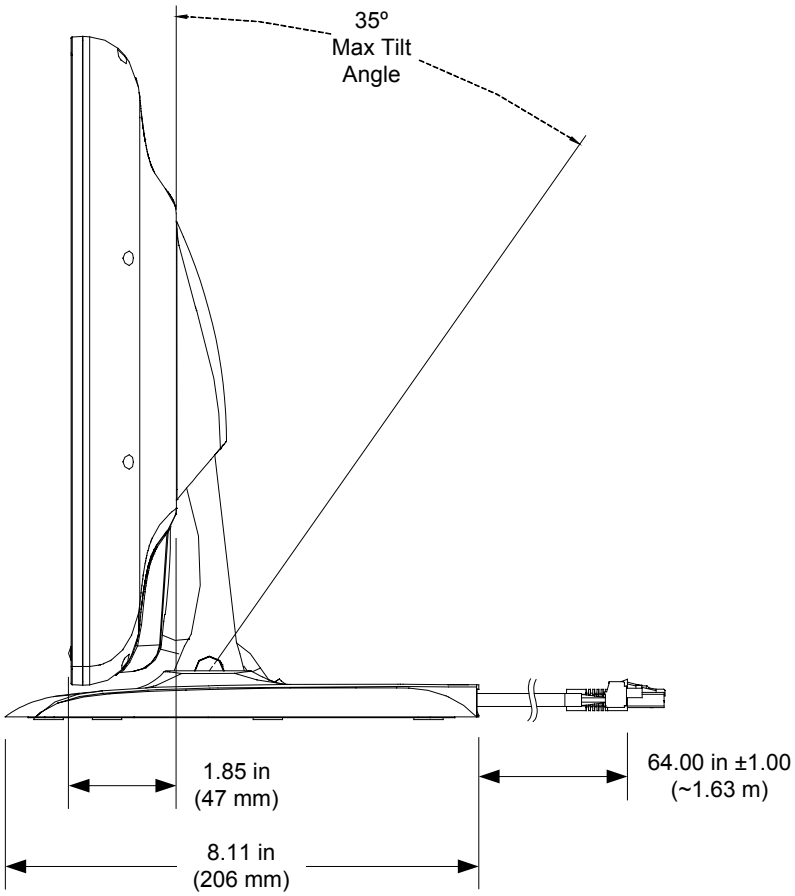


NOTE: In the illustration above, the V15 is shown with the rear cover removed. When making cable connections to the V15, it will be necessary to remove the cover by first removing the four screws holding it in place. Replace the cover when connections have been made.

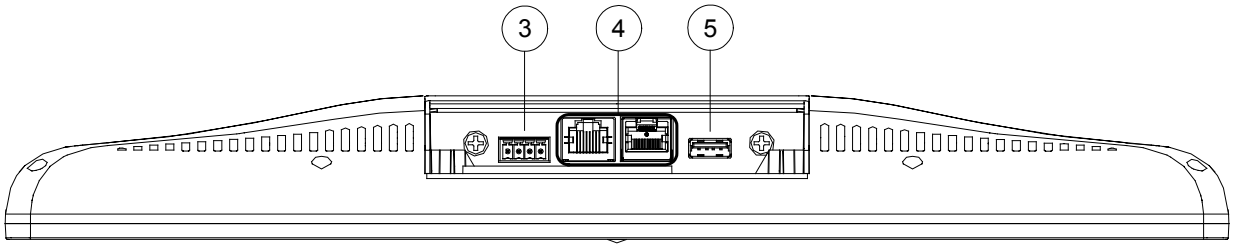
V15-TILT Overall Dimensions (Front View)



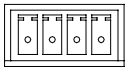
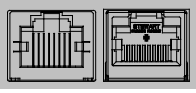
V15-TILT Overall Dimensions (Side View)



V12/15 Overall Dimensions (Rear View – V15 Shown)



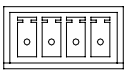
Connectors, Controls & Indicators

#	CONNECTORS[1], CONTROLS & INDICATORS	DESCRIPTION
1	Hard Key	(1) Programmable push button, also reboots DGE if held for five seconds
2	DM Link LED	(1) Green LED, indicates power and connection to DGE or other DM device
3	24 A B G[2, 3] 24 A B G 	(1) 4-pin 3.5 mm detachable terminal block, DMNet port; Connects to DMNet port of a DGE, DGE-2, DM transmitter or DM switcher (all sold separately) via DB-CBL cable[4, 5]
4	DM INPUT D & M[6, 7] M D 	(1) DM CAT input comprised of (2) 8-pin RJ-45 female, shielded; Connects to DM CAT output of a DGE-1, DGE-2, DM transmitter or DM switcher (all sold separately) via DB-CBL cable[4, 5]
5	USB 	(1) USB Type A female; USB 1.1 host port for connection of a mouse/keyboard or other HID (Human Interface Device) compliant device

1. Interface connectors for **24 A B G** and **DM INPUT** ports are provided with the unit.
2. Refer to the following table for the **24 A B G** connector pinouts.

24 A B G Port

24 A B G



PIN #	SIGNAL	DESCRIPTION	WIRE COLOR
24	24V DC	DC Power	Red
A	DMNet+	DMNet	White
B	DMNet-	DMNet	Blue
G	Ground	DC Ground	Black

3. DMNet wiring is not compatible with Cresnet® wiring. DMNet wiring cannot be daisy chained.
4. The V12/15 features a DM CAT input. For direct connection to a DGE-1, use DM-CBL DigitalMedia cable up to 200 feet (61 meters) in length. For connection to a DGE-2, direct or via a DigitalMedia switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. For connection to a DVPHD, via a DigitalMedia transmitter or switcher, use DM-CBL DigitalMedia cable up to 450 feet (137 meters) in length. Up to two DM Repeaters (model DM-DR, sold separately) are required for cable lengths beyond 200 feet (61 meters). Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines. The V12 and V15 include (1) V-CBL-T3 three foot (~0.9 meter) V-Cable and V-IMCW wall mount interface module and the V12-TILT and V15-TILT models include (1) V-CBL-T6 6 foot (~1.8 meter) V-Cable and V-IMCW wall mount interface module. The V12-WALL and V15-WALL models include no cable or interface module.
5. An Ethernet enabled control system is required for use with a DVPHD. Be advised, the DVPHD does not support audio, intercom, streaming media, Web browsing or other embedded PC functionality.
6. To determine which is pin 1 on the cable, hold the cable so the end of the eight pin modular plug is facing away from you, with the clip down and copper side up. Pin 1 is on the far left.

7. The **DM INPUT** port consists of two separate RJ-45 connectors labeled **D** and **M**. The **D** port carries HDMI signal. The **M** port carries data. Refer to the following table for the connector pinouts.

D and M Ports

PIN #	WIRE COLOR	PIN #	WIRE COLOR
1	Orange/White	5	Blue/White
2	Orange	6	Green
3	Green/White	7	Brown/White
4	Blue	8	Brown

Setup

Configuring the V-Panel

The V-Panel is configured from the setup menu using the DGE Digital Graphics Engine (sold separately). Refer to the Operations Guide that came with your DGE.

Hardware Hookup

Ventilation

The V12/15 should be used in a well-ventilated area.

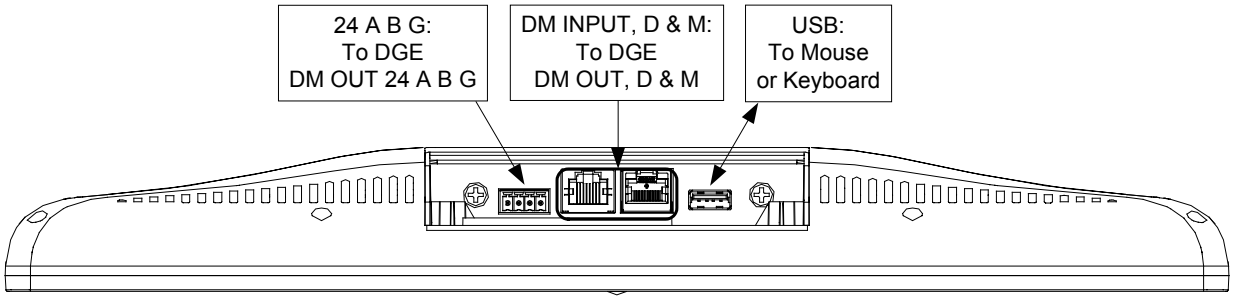
To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

Connect the Device

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

When making connections to the V12/15, use Crestron power supplies for Crestron equipment.

Hardware Connections for the V12/15 (V15 Shown)



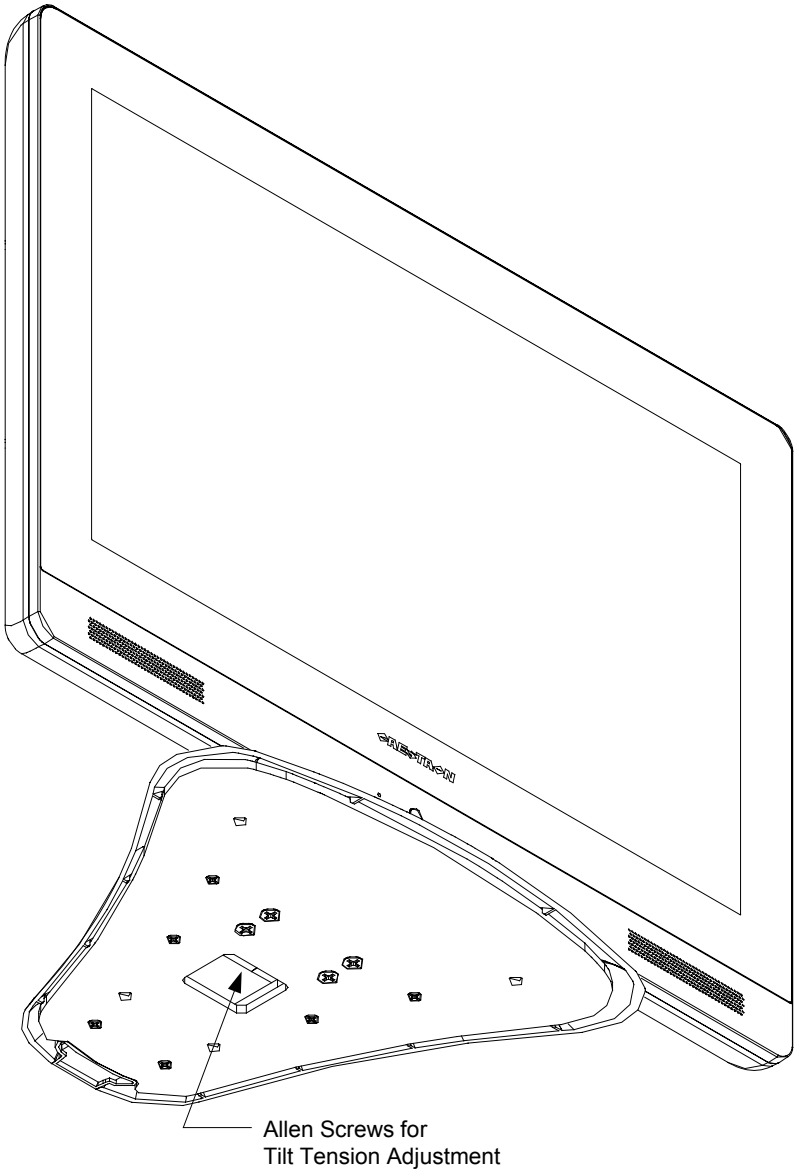
NOTE: For wiring between the V-Panel and DGE, use DM-CBL DigitalMedia Cable. The maximum allowable cable length is 150 feet (46 meters). (Contact Crestron if more than 150 feet is needed.)

NOTE: DMNet® wiring and Cresnet® wiring are not compatible.

Tilt Tension Adjustment

Tilt tension on the V12 and V15 is preset at the factory to allow the panel to be tilted anywhere within its 35 degree tilt range and maintain its position during use. To tighten tilt tension or to fix the panel at a given tilt position, use the three Allen screws accessed through the hole in the touchpanel base, as shown in the following illustration.

Position of Allen Screws for Tilt Tension Adjustment



Recommended Cleaning

Keep the surface of the touchscreen free of dirt, dust or other materials that could degrade optical properties. Long-term contact with abrasive materials can scratch the surface, which may detrimentally affect image quality.

For best cleaning results, use a clean, damp, non-abrasive cloth with any commercially available non-ammonia glass cleaner. Bezels may not provide a complete watertight seal. Therefore, apply cleaning solution to the cloth rather than the surface of the touchscreen. Wipe touchscreen clean and avoid getting moisture beneath the bezels.

Resources

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron Web site (www.crestron.com/dmresources). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
DigitalMedia Design Guide

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron Web site (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the V12/15, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact an authorized CRESTRON dealer. Only authorized CRESTRON dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

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change without notice.